REMARKS

Applicant respectfully requests reconsideration and allowance of the subject application. Claims 46-47 have been canceled. Claims 1-45 and 48-52 are pending, of which claims 44 and 48-50 have been amended.

Allowable Subject Matter

Claims 26-41 have been allowed. Claims 10, 12-13, 15, 21-22, 47-50, and 52 are indicated as being allowable if rewritten in independent form (*Office Action* p.4). Applicant appreciates the indications of allowability.

Claims 10, 12-13, 15, and 21-22 remain unchanged and are allowable by virtue of their dependency upon the respective independent claims.

Claim 44 is amended to include the elements of allowable claim 47. Accordingly, independent claim 44 along with dependent claims 45 and 48-52 are in condition for allowance.

Applicant respectfully requests that the objection to claims 10, 12-13, 15, 21-22, 47-50, and 52 be withdrawn.

Specification Objection

The specification has been objected to for an informality (*Office Action* p.2). The Office suggests that "the optical sensor scans in a direction 542 ~~over~~ beyond the print media" is a needed change to remain consistent with the drawings (*Specification* p.16, lines 1-2). Applicant disagrees and contends that scanning "over" the print media is correctly stated and consistent with the rest of the application.

"Sensor 310 can be implemented as an optical sensor to detect the optical density of a printed image, such as print swath 316. Pen carriage mechanism 308 moves sensor 310 over print swath 316 in directions indicated

by arrows 322 across a width 324 of print media 312." (Figs. 3-4; *Specification* p.13, lines 14-17). The illustration of the sensor scanning 542 over the diagnostic image 510 in Fig. 5 is merely exemplary, while Figs. 3-4 clearly illustrate that a sensor 310 scans over a print media 312.

Additionally, there are numerous other references to scanning over a print media that the Office does not object to. For example: "an optical sensor, such as sensor 310 in exemplary printing device 300 (Fig. 3), scans in a direction 518 over the print media" (Fig.5; *Specification* p.14, lines 15-17); "the optical sensor scans in a direction 530 over the print media" (Fig. 5; *Specification* p.13, lines 14-17); "an optical sensor, such as sensor 310 in exemplary printing device 300 (Fig. 3), scans in a direction 622 over the print media (Fig. 6; *Specification* p.17, lines 9-11); "the optical sensor scans in a direction 634 over the print media" (Fig. 6; *Specification* p.17, lines 25-26); "the optical sensor scans in a direction 646 over the print media" (Fig. 6; *Specification* p.18, lines 14-15).

Accordingly, Applicant respectfully requests that the Specification objection be withdrawn.

35 U.S.C. §103 Claim Rejections

Claims 1-9, 11, 14, 16-20, 23-25, 42-46, and 51 are rejected under 35 U.S.C. §103(a) for obviousness over Patent No. JP 08085242 to Yoshihiro (hereinafter, "Yoshihiro"), in view of U.S. Patent No. 6,158,344 to Walker et al. (hereinafter, "Walker") (*Office Action* p.2). Claim 46 has been canceled. Claim 44 has been amended to include allowable subject matter and is allowable along with dependent claims 44-45 and 51. Applicant respectfully traverses the rejection of the remaining claims.

Claim 1 recites a printing device comprising "a sensor configured to detect pen swath optical densities from the printed diagnostic image", "an application component configured to determine a pen swath height error compensation factor from the pen swath optical densities", and "a print media line-feed advance offset configured to be calibrated corresponding to the pen swath height error compensation factor."

The Office recognizes that the "prior art does not disclose offsetting a print media line-feed advance corresponding to the error compensation factor" as set forth in allowed claim 26 (*Office Action* p.4). Accordingly, claim 1 is allowable over the Yoshihiro-Walker combination because the references do not disclose "a print media line-feed advance offset configured to be calibrated corresponding to the pen swath height error compensation factor", as recited in claim 1.

Additionally, Yoshihiro and/or Walker do not teach or suggest that a pen swath height error compensation factor is determined from pen swath optical densities, as recited in claim 1. The Office recognizes that Yoshihiro does not disclose this feature and thus, cites Walker (*Office Action* p.3). However, Walker does not determine the error compensation factor from pen swath optical densities, as recited in claim 1. Walker only describes that intervals between calibration marks are determined (*Walker* col.5, lines 8-57).

Accordingly, claim 1 is also allowable over the Yoshihiro-Walker combination because the references do not teach or suggest that a pen swath height error compensation factor is determined from pen swath optical densities, as recited in claim 1. Applicant respectfully requests that the §103 rejection be withdrawn.

Claims 2-9, 11, and 14 are allowable by virtue of their dependency upon claim 1 (either directly or indirectly). Additionally, some or all of claims 2-9, 11, and 14 are allowable over the Yoshihiro-Walker combination for independent reasons. For example:

Claim 11 recites that "the application component is further configured to average multiple pen swath optical densities to determine the pen swath height error compensation factor." Yoshihiro and/or Walker do not teach or suggest an average of multiple pen swath optical densities, as recited in claim 11. The Office cites the Yoshihiro abstract for disclosing that multiple pen swath optical densities are averaged to determine a pen swath height error compensation factor (*Office Action* p.3). However, the Yoshihiro abstract only describes that a test pattern is read by an image sensor, and based on the data, an optimum conveying condition of the recording paper is calculated. There is no indication in Yoshihiro that pen swath optical densities are determined or that optical densities are averaged, as described in claim 11.

Accordingly, claim 11 is allowable over the Yoshihiro-Walker combination and the §103 rejection should be withdrawn.

Claim 16 recites a printing device comprising "a sensor configured to detect pen swath optical densities from the printed diagnostic image", and "an application component configured to determine a print media line-feed advance offset from the pen swath optical densities."

As described above in the response to the rejection of claim 1, Yoshihiro and/or Walker do not teach or suggest that a print media line-feed advance offset is determined from pen swath optical densities, as recited in claim 16. Walker only describes that intervals between calibration marks are determined (*Walker* col.5, lines 8-57), and does not disclose that a print media line-feed

advance offset is determined from the pen swath optical densities, as the Office contends (*Office Action* p.3).

Accordingly, claim 16 along with dependent claims 17-20 and 23-25 are allowable over the Yoshihiro-Walker combination and the §103 rejection should be withdrawn.

Claim 42 recites "determining a pen swath height and print media line-feed advance error compensation factor from pen swath optical densities detected from a printed diagnostic image."

As described above in the response to the rejection of claim 1, the Office recognizes that Yoshihiro and/or Walker do not teach or suggest determining a pen swath height and print media line-feed advance error compensation factor, as recited in claim 42 (*Office Action* p.3). Further, Walker does not determine a compensation factor from pen swath optical densities, as recited in claim 42. Walker only describes that intervals between calibration marks are determined (*Walker* col.5, lines 8-57).

Accordingly, claim 42 along with dependent claim 43 is allowable over the Yoshihiro-Walker combination and the §103 rejection should be withdrawn.

Conclusion

Pending claims 1-45 and 48-52 are in condition for allowance. Applicant respectfully requests reconsideration and issuance of the subject application. If any issues remain that preclude issuance of this application, the Examiner is urged to contact the undersigned attorney before issuing a subsequent Action.

Respectfully Submitted,

Dated: Aug. 11, 2004 By: _____

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